

Life Cycle Monitoring of a Long-Distance Migratory Shorebird

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Connecting populations of migratory birds between breeding, migratory, and wintering areas is critical for the long-term conservation of those species. We have tracked 19 Whimbrels between 2008-2011 using MTI's 9.5g solar-powered PTTs with the primary interest of revealing their annual cycle. The Whimbrel (*Numenius phaeopus*) is a large (300-700g) migratory shorebird that breeds in the high arctic region of North America and winters primarily in South America. The North American population is geographically separated between eastern Whimbrels from the Hudson Bay region and western Whimbrels from Alaska and the MacKenzie River Delta.

The migration corridors for these populations were long considered to be separate with the eastern population believed to travel along the Atlantic Coast and the western population along the Pacific Coast. Our first PTT tagged Whimbrel reformed this long standing idea as it was tracked from staging grounds in Virginia on a 5 day, 5,000km non-stop journey to the western

Photo by Bart Paxton



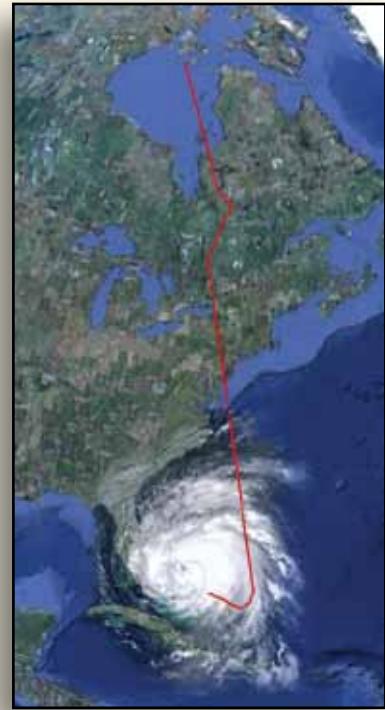
Whimbrel with 9.5g Solar PTT.

breeding grounds. We have subsequently tracked a second Virginia Whimbrel to western breeding grounds and a number of other Whimbrels to the Hudson Bay region.

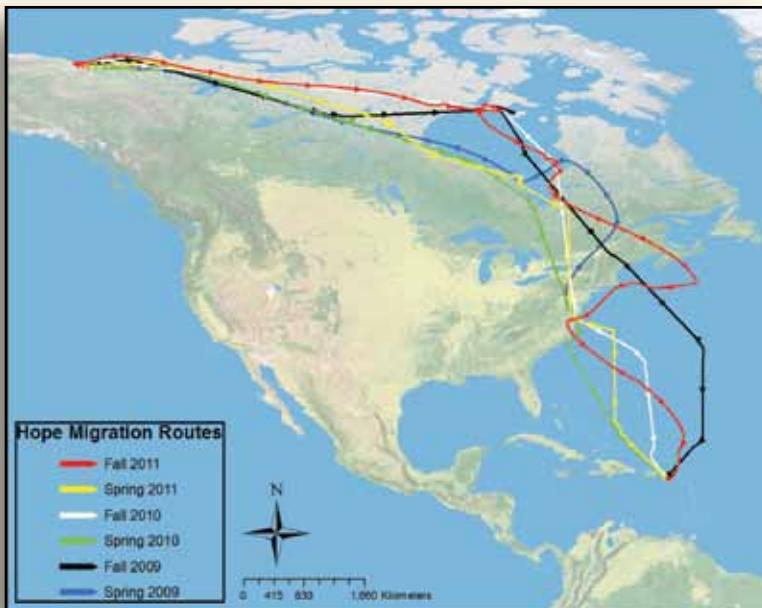
The implications of these tracking events are critical for long-term conservation of Whimbrels because they indicate that the stopover habitats along the Atlantic Coast are important for both eastern and an unknown proportion of the western populations. Migration population monitoring conducted by The Center for Conservation Biology in Virginia has indicated that the Atlantic Coast migratory population has been in a precipitous decline for over a decade. Taken together, tracking results and migration monitoring highlight the need to determine relative attribution of these declines among the two geographic subpopulations.

The autumn migration season of 2011 provided new lines of investigation, including the response of migrating Whimbrels to large storm events. We had been tracking a Whimbrel known as Hope since May 2009. During her third fall migration we tracked her as she flew into the heart of a tropical storm off the coast of Nova Scotia. She averaged 14km/hr for 27 hours flying through the storm before finding tailwinds that pushed her to landfall at a rate of 147km/hr! The next Whimbrel that encountered a storm event occurred when Chinquapin began his fall migration from Coates Island, Nunavut, Canada and made way over the Atlantic Ocean. He flew 5100km in 5 days before encountering category 3 Hurricane Irene. The duty cycle on this bird's PTT was 48hrs off/10hrs on. So, when we received the last data point when Chinquapin was in the eye of the hurricane, we had to wait a full 48 hours to determine if he had successfully navigated the storm. We were relieved to find the bird alive on an island in the Bahamas after the two day wait.

But the storm season of 2011 was not over for Whimbrels just yet as Tropical Storm Maria began brewing off the Lesser Antilles in mid-September. This time a third Whimbrel, named Machi, departed Virginia and flew straight into Tropical Storm Maria. Machi was able to prevail over the storm, much as Chinquapin did, and made landfall on Guadeloupe, French West Indies. Unfortunately Guadeloupe is an island where shorebird hunting is very common, and she was shot by a hunter within minutes of arrival. During the previous two fall migrations, Machi flew directly from Virginia to South America, bypassing the Lesser Antilles altogether and likely only stopped due to the storm interaction. A fourth Whimbrel known as Goshen, who had flown through the outer bands of Hurricane Irene the previous week, landed in a hunting swamp on Guadeloupe the same morning as Machi. Goshen was likely shot within hours of arrival, suggesting very high hunting pressure on shorebirds there. The data obtained from these two birds will likely help local conservation officials to begin investigating the role of hunting pressure on population declines and to protect at least some species (including Whimbrel) as they migrate through the gauntlet of storms and hunters. Hope left Virginia shortly after Machi and also encountered Tropical Storm Maria, but was able to fly through the storm and land in her annual wintering location on St. Croix, US Virgin Islands. We have now tracked her for over 64,000km in just over 2.5 years. The story of this wide ranging bird has been used to enable local conservation efforts to protect mangrove wetlands within St. Croix. Partners on this project include US Fish and Wildlife Service, The Nature Conservancy, Georgia Department of Natural Resources, and Manomet Center for Conservation Sciences.



Track of Chinquapin through Hurricane Irene.



Composite view of annual migration events for Hope the Whimbrel 2009-2011. Current location is Great Pond, St. Croix, US Virgin Islands where she has spent three winters.